

Specifications

| Model | TH-80BF1 | TH-65BF1 | TH-50BF1 |
|-------------------------------------|---|--|--|
| Display panel | | | |
| Screen size (diagonal) | 80-inch (2032 mm) | 65-inch (1638 mm) | 50-inch (1257 mm) |
| Panel type | LCD VA panel/E-LED | | |
| Aspect ratio | 16:9 | | |
| Effective display area (W x H) | 1771 x 996 mm (69.7" x 39.2") | 1428 x 803 mm (56.2" x 31.6") | 1095 x 616 mm (43.1" x 24.2") |
| Number of pixels (H x V) | 1920 x 1080 | | |
| Brightness | 350 cd/m ² | | |
| Contrast ratio | 5000:1 | 4000:1 | 5000:1 |
| Dynamic contrast | 50000:1 | | |
| Response time | 4 ms (G to G) | 6.5 ms (G to G) | 8 ms (G to G) |
| Viewing angle (Horizontal/vertical) | 176 °/176 ° (CR ≥ 10) | 178 °/178 ° (CR ≥ 10) | 176 °/176 ° (CR ≥ 10) |
| Touch panel | | | |
| Detection method | Infrared blocking detection method | | |
| Touch operation | Up to 12-point multi-touch (When using Whiteboard Software for Windows. Up to 4-point when using Built-in Whiteboard Software and Whiteboard Software for Mac.) | | |
| Connection terminal | | | |
| Video In | BNC x 1 | | |
| Audio In (L/R) | Stereo mini jack (M3) x 1 (Shared with COMPONENT/RGB IN) | | |
| HDMI In | HDMI TYPE A connector x 2 | | |
| Component video/RGB In | BNC x 1 set | | |
| Audio In (L/R) | Stereo mini jack (M3) x 1 (Shared with VIDEO IN) | | |
| DVI-D In | DVI-D 24-pin x 1 | | |
| Audio In (L/R) | Stereo mini jack (M3) x 1 (Shared with PC IN) | | |
| PC In | Mini D-sub 15-pin (female) x 1, Plug & Play (VESA DDC 2B) | | |
| Audio In (L/R) | Stereo mini jack (M3) x 1 (Shared with DVI-D IN) | | |
| Monitor Out (PC Out) | Mini D-sub 15-pin x 1 | | |
| USB memory | USB TYPE A connector x 1 (For Memory Viewer) | | |
| PC connection | USB TYPE B connector x 1 (For Touch Panel) | | |
| External speaker | 8 Ω, 20 W [10 W + 10 W] (10 % THD) | | |
| Serial | D-sub 9-pin (male) x 1 for external control (RS-232C compliant) | | |
| DIGITAL LINK/LAN | RJ45 x 1 for network and DIGITAL LINK connection, compatible with PLink™, 100BASE-TX | | |
| Function slot | SLOT2.0 x 1 (Vacant) | | |
| Audio | | | |
| Built-in speaker | 20 W [10 W + 10 W] | | |
| Electrical | | | |
| Power requirements | 110–127 V AC, 50/60 Hz, 220–240 V AC, 50/60 Hz | | |
| Power consumption | 350 W | 215 W | 140 W |
| Power off condition | Approx. 0.3 W | | |
| Standby condition | Approx. 0.5 W | | |
| Mechanical | | | |
| Dimensions (W x H x D) | 1868 x 1093 x 104 mm (73.6" x 43.1" x 4.1") | 1517 x 892 x 108 mm (59.8" x 35.2" x 4.3") | 1185 x 705 x 104 mm (46.7" x 27.8" x 4.1") |
| Bezel width | Approx. 43 mm (1.7") | Approx. 39 mm (1.53") | |
| Weight | 81 kg (178.6 lbs) | 58 kg (127.9 lbs) | 34 kg (75.0 lbs) |
| Protective glass | Thickness: Approx. 3.3 mm (0.13") / Anti-glare | Thickness: Approx. 2.9 mm (0.11") / Anti-glare | Thickness: Approx. 2.9 mm (0.11") / Anti-glare |
| Cabinet material/color | Aluminum/Black | | |
| Pitch for wall-hanging | VESA compliant 400 x 400 mm (15.8" x 15.8") | 684 x 300 mm (27.0" x 11.9") | 400 x 300 mm (15.8" x 11.9") |
| Installation orientation | Landscape/Portrait (When installing the display on portrait setting, be sure to install with the power indicator at the topside of the display.) | | |
| Installation angle | 0–20 degrees forward with landscape setting | Vertical setting only | 0–20 degrees forward with landscape setting |
| Environment | | | |
| Operating environment | Temperature: 0 °C to 40 °C (32 °F to 104 °F) [for up to 1400 m altitude] / 0 °C to 35 °C (32 °F to 95 °F) [for between 1400 m and 2800 m altitude], Humidity: 20 % to 80 % (Non-condensation) | | |
| Storage environment | Temperature: -20 °C to 60 °C (-4 °F to 140 °F) Humidity: 20 % to 80 % (Non-condensation) | | |
| Continuous operation | 18 hours | | |
| Built-in wireless LAN function | | | |
| Standard | 2.4 GHz: IEEE802.11b/g/n, 5.0 GHz: IEEE802.11a/n | | |
| Infrastructure mode | WPA2-PSK (TKIP/AES), WPA-PSK (TKIP/AES), WEP (64-bit/128-bit), WPA-EAP/WPA2-EAP (PEAP [MS-CHAPv2/GTC]/EAP-FAST [MS-CHAPv2/GTC]/EAP-TLS [MD5/MS-CHAPv2], 128-bit/64-bit) | | |
| Included accessories | AC cord, remote control transmitter, batteries for the remote control transmitter (AA size x 2), software CD-ROM (Whiteboard Software / Wireless Manager Software / Operating Instruction) x 1, USB cable x 1, Touch Pen x 4 (TH-80BF1), Touch Pen x 2 (TH-65BF1/50BF1), Eraser x 1, Pen Stand, clamper x 1, screw x 2, washer x 2 (TH-80BF1) | | |

■ Optional Accessories

| | | | | | |
|--|---|--|---|--|---|
| Mobile Stand For 80-inch TY-ST80LF70 | Wall-Hanging Bracket For 80-inch TY-WK70PV50**1 | Pedestal For 80-inch/65-inch TY-ST65P20**1 | Ceiling Bracket For 50-inch TY-CE42PS20 | DIGITAL LINK Switcher ET-YFB200G**2 | Easy Wireless Stick ET-UW100**3 |
| For 65-inch TY-ST65PB2 | For 65-inch TY-WK65PR20 | For 50-inch TY-ST42P50**1 | | Digital Interface Box ET-YFB100G | |
| For 50-inch TY-ST50PB2 | For 50-inch TY-WK42PV20 TY-WK42PR20 | | | | Early Warning Software ET-SWA100 Series**4 |

■ Optional Function Board

| | | |
|--------------------------------------|--|---|
| DVI-D Terminal Board TY-FB11DD | HD-SDI Terminal Board with Audio TY-FB10HD | Dual Link HD-SDI Terminal Board with Audio TY-FB11DHD |
|--------------------------------------|--|---|

*1 Production discontinued (stock is limited).
*2 Long Reach Mode on ET-YFB200G is not supported.
*3 This product can be purchased in the U.S., Canada, Japan, Australia, and New Zealand.
*4 Part number suffix may differ depending on the license type.

Panasonic®

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For more information about Panasonic professional displays, please visit:
Global Website – panasonic.net/prodisplays
YouTube – www.youtube.com/PanasonicProDisplay

All information included here is valid as of August 2016.

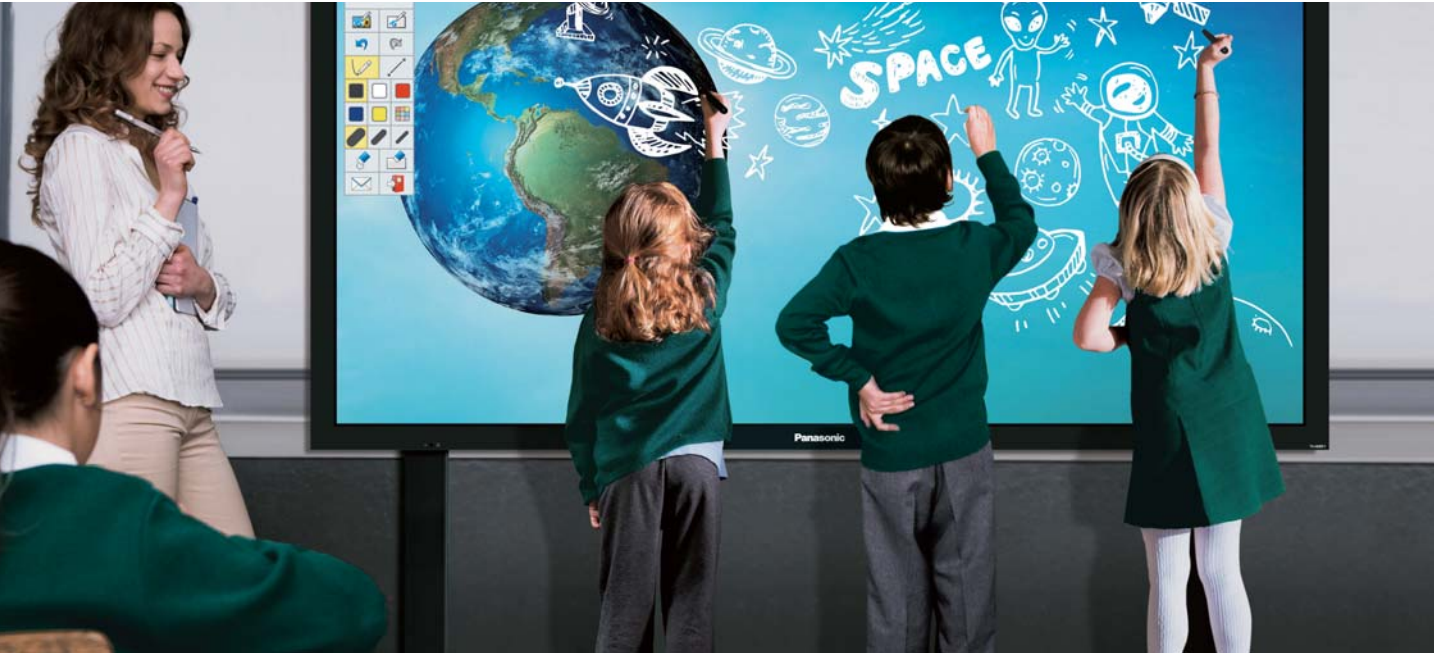
CT16-G03PF-BF1 Printed in Japan.

Panasonic
BUSINESS

BF1 Series
Touch Screen LCD Display

80-inch TH-80BF1
65-inch TH-65BF1
50-inch TH-50BF1

Your Window on the Future Interactive Display for Business and Education



Worldwide
Olympic Partner



Worldwide
Paralympic Partner





Connect. Create. Share. A Turnkey Display That Brings Out the Best in People.

Good communication is key in the office or classroom. The Panasonic BF1 Series puts the tools you need to achieve it at your fingertips. Start presenting instantly on the whiteboard, import and modify media wirelessly, brainstorm ideas with teams in remote locations, and email progress direct from the display. Do it all from an intuitive touchscreen with fewer cables and no need for a remote. The BF1 Series doesn't just save time and money: it's a complete end-to-end solution engineered for success at the highest level.



Touch Screen LCD Display
80-inch / 65-inch / 50-inch

BF1 Series



PRACTICAL APPLICATIONS



For Presentations

Switch on. Start work. Make notes, draw, add graphics, display documents, video, and more. Save as image files and email. Couldn't be simpler!



In the Classroom

Precise 12-point multi-touch control and user-friendly menu bar make it easier for students to understand any subject using the display's powerful features.



Video Conferences

The BF1 Series not only lets your teams videoconference*, it allows them to work on documents together in split-screen mode at the same time.

* Additional equipment and subscription required for video- and web-conferencing system.



For Meetings

Media such as websites, documents, and PC desktops can be mirrored wirelessly* from compatible devices on the big screen.

* Drawing on media transmitted via Mirroring Input is not supported.



For Process Management

The BF1 Series has useful application in industry. Staff can manage production processes, scheduling, and share spreadsheet data on-screen.



For Public Information

Connected to appropriate PC software, the BF1 Series excels as an interactive touch-screen display for museums, exhibitions, and more.

USABILITY

Powerful and Intuitive
Quick-Start Whiteboard



On-screen Menu Bar Keeps You In Control

Don't lose the crowd—or your cool—in endless menus while you search for content or functions. With the BF1 Series, everything is to hand in a discreet menu bar at the bottom of the screen that offers instant access to source inputs, whiteboard tools, and other controls you use most frequently. Even when the pressure's on, you'll look like a pro.



Input Selection
Four frequently used inputs can be registered

Whiteboard
Writing

Touch zoom

Volume settings

User-Friendly Menu Bar

Frequently used functions such as input selection, pen tool, enlargement tool, and volume control can be found in the menu bar. Access detailed information or hide it for uninterrupted full-screen display.

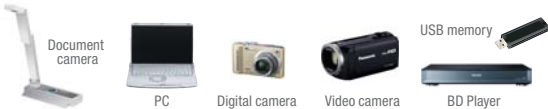


Menu fully expanded

Menu minimized

Connect a Variety of Devices and Switch Sources Quickly

Up to four of your most frequently used inputs can be named and assigned to the menu bar for quick and easy switching. Smooth operation without a remote controller allows you to focus on making a creative presentation.



Colors Everyone Can See

Color Universal Design (CUD) ensures that colors are reproduced clearly and accurately for the many millions of people living with color-vision defects. The CUD setting is ON/OFF-selectable (default setting is OFF) according to user preference, and the display's power LED indicator color is also CUD-compliant.

What is Color Universal Design (CUD)?

Due to genetics or other vision disorders, some people can perceive colors differently. Individuals can have difficulty distinguishing between certain color combinations. CUD ensures that color information is accurately expressed for the comfort and convenience of all.



Note: CUD logo denotes product certification by Color Universal Design Organization in Japan.

Quick-Start Whiteboard

Start working on the built-in whiteboard right away—just switch on the display. Intuitive operation makes life easy for kids and less tech-savvy presenters.



Makes Notes Fast

Use the tool palette to write text and draw freehand on your document. Save it to memory or email it direct from the display. Included stylus pens and eraser let you write large amounts of text just like a regular whiteboard.



Pen lines
appear instantly
on screen

Play USB Content Instantly

Playing Full HD video, still images, and digital documents from USB storage devices couldn't be easier. Just insert a thumb drive into the USB port and start presenting without needing to connect a PC. The Memory Viewer app enables image* (JPEG, BMP) and video* (WMV, AVI, MOV, MP4, MPG) selection from handy thumbnail previews.

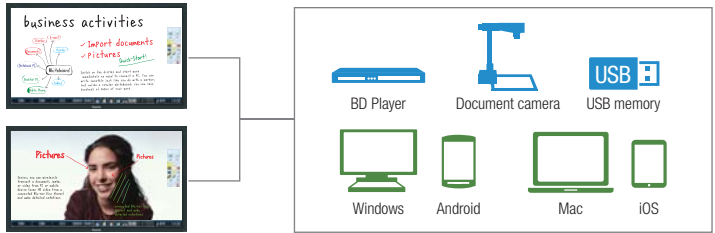


* In some cases, files may not be viewable even if they are encoded in a supported format.

Write and Draw on Video and Still Images

You can write and draw on almost any media you like, including video and still images from external devices. These dynamic multi-media capabilities make it easy for teams to share information, contribute ideas, and solve problems.

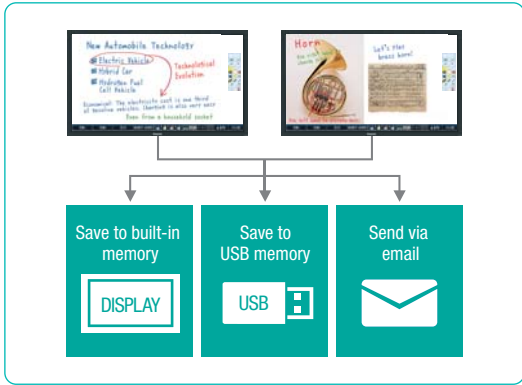
Note: Drawing on media transmitted via Mirroring Input is not supported.



Easy to Save and Share

Produce up to 100 pages*¹ of work on the whiteboard and save them to the built-in memory*² or USB thumb drive as JPEG image files. You can also copy data stored on internal memory to a USB drive, or send your pages as image files directly from the screen via email*³. Keeping everyone in the loop is simple.

*¹ With built-in memory setting to ON. When individual file data size is large, the number of pages that can be saved may decrease. *² Built-in memory ON/OFF is included. When OFF is selected, only one whiteboard page can be created. *³ Can be sent as JPEG format only.

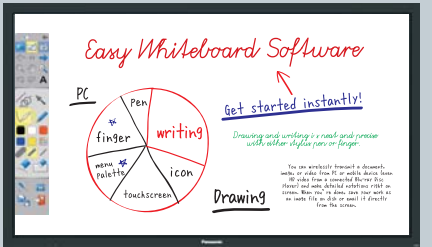


Whiteboard Software for PC Extends Your Capabilities

Whiteboard Software for PC offers deeper functionality for power users. As well as adding extra presentation tools and a PowerPoint® Link mode for easy import and modification of PowerPoint® files, the application's 12-point touch*¹ interface lets a group of people write and draw simultaneously.

Whiteboard Software Highlights

- Color Universal Design for clearly distinguishable color reproduction*²
- Three operation modes*² (Whiteboard Function, PowerPoint® Link Mode, and Desktop Operation)
- More presentation tools*² (Loupe, Spotlight, Shade, Fade-out Marker)
- Screen video recorder function*²
- Image capture
- Up to 12-point multi-touch function*¹
- Image import (JPEG, PNG, BMP)
- Start-up from external memory*²



For the latest software, please visit our global website:
<http://panasonic.net/prodisplays/>

Intuitive Operation with Precision 12-point Touch-Sensor*¹

Twelve-point multi-touch functionality makes it simple to resize and move graphics around on your documents. Multiple people can also write simultaneously for smooth collaboration.



No Need to Install a PC*²

Whiteboard Software can run from an external USB memory device or SD Card. No need to install software, no cables, and less wasted time.

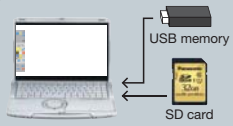


Image and Video Capture*²

Any displayed image can be screen-capped and saved to memory. The process of writing and drawing can also be recorded as video. You can preserve the presentation as it happens and email it later to absent colleagues, clients, or students.



Modify and Update Meeting Documents*²

Make notes on PowerPoint® documents displayed on screen using your stylus pen and resave them in PowerPoint® format—this makes it easy to keep the whole team up to date, even those not present at the meeting.



Import Image Files

JPEG, PNG, and BMP files can be imported into the display. You can write and draw onto the image files directly.

*¹ Up to 12-point for Windows®, up to 4-point for Mac. *² For Windows® only.

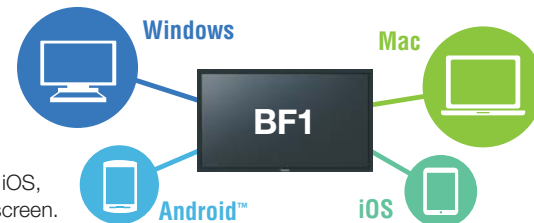
NETWORK

Universal Wireless Support



Panasonic Wireless Solution

Panasonic's Wireless Display function supports secure high-bandwidth wireless transmission from compatible Windows® PCs. Proprietary apps for Windows®, Mac, iOS, and Android™ add a raft of easy-to-use functions, including Multi-Live Mode in split-screen.



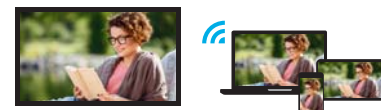
Wireless Display with Wi-Fi-Certified Miracast™¹

Share It On the Big Screen

Still images, video, and audio are all smoothly transmitted peer-to-peer from Windows® PCs and Android™ devices. Video content is supported at up to 1080p resolution, with high-bandwidth performance ensuring stutter-free video playback.

Selectable Display Modes

Display modes comprising Duplicate, Extend, and Second Screen allow your source device screen and the display to interact in different ways depending on your needs in the meeting space or classroom.



Windows Android™

Duplicate Mode

Mirror your device's screen on the display



Extend Mode

Use the display as an extended PC screen



Second Screen Only

PC screen is shown only on the display



Prevents Improper Connection

A PIN code appears when a user attempts to connect to the display. Only those with access can transmit wirelessly, preventing improper or accidental use.

PIN: 00000000



Smooth Video Playback

The Wireless Display feature is optimized to ensure smooth and uninterrupted playback of online streaming video sources, adding another layer of versatility and convenience.



Selectable Channels

Selectable 2.4 GHz and 5 GHz* channels for areas with Wi-Fi® congestion are included.

2.4GHz 5GHz

* America/Europe/CIS only.

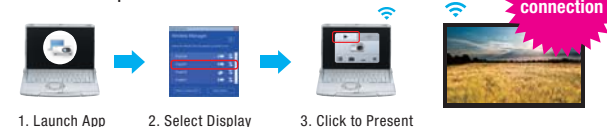
Panasonic Wireless Manager



- Fast and stable wireless connection
- Connect 4 or 16 PCs in Multi-Live Mode

Download free from our global website at <http://panasonic.net/prodisplays/>

Quick 3-Step Connection

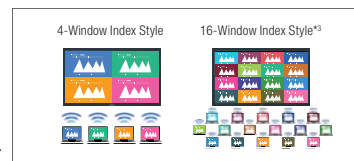


Easy Wireless Stick ET-UW100*²

- Self-contained Easy Wireless Stick plugs into PC's USB
- Provides internet access while operating wirelessly

Multi-Live Mode

Apps for PC, iOS, Android™, and Easy Wireless Stick feature Multi-Live Mode. This function enables media display from up to 16 different devices in split-screen configuration (4 or 16 window). You can also transmit content from one PC to up to eight projectors or displays.



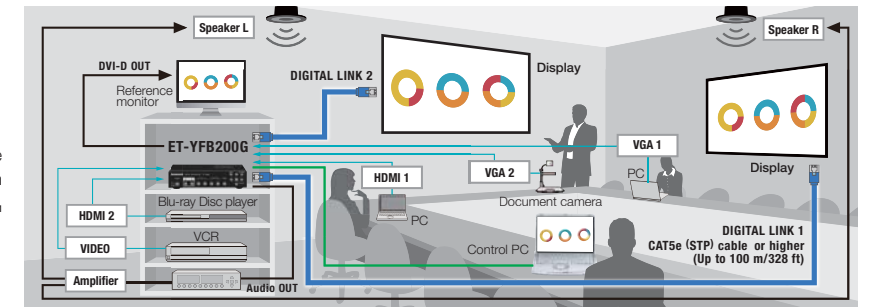
FLEXIBILITY

System Flexibility and Additional Features



Simplified DIGITAL LINK Connection

DIGITAL LINK transmits uncompressed Full HD video, audio, and control commands through a single CAT 5e or higher STP cable for up to 100 m (328 ft). Connect all your source devices to an optional DIGITAL LINK Switcher (ET-YFB200G)/Digital Interface Box (ET-YFB100G) and use just one cable to link your display. This simplifies installation and saves on cabling costs.



Note: Long Reach Mode on ET-YFB200G is not supported.

For more information, please visit our DIGITAL LINK website: panasonic.net/prodisplays/solutions/technology/digital_link/

Connect a Second Display

Use a VGA cable to mirror content* on a second display or projector—even the notes you might add to documents, images, or video during your presentation. This dual-display capability makes the BF1 series ideal for use in larger venues. Supported inputs include HDMI, DVI, PC, Memory Viewer, and Whiteboard.

* Supports 1080/60p signal only.



Protective Glass and AG Screen Surface for Clear Visibility

Protective glass adds extra security against impact. This insurance is invaluable in high-traffic areas such as conference rooms, classrooms, and public spaces. An improved Anti-Glare (AG) screen treatment scatters reflected light from overhead illumination to reduce glare and improve all-round visibility.



Expandable Connectivity with SLOT2.0

SLOT2.0 allows you to add the connection terminals needed for specific applications. Optional function boards can be inserted to support a customized content distribution system.



Supports Crestron Connected™ Software

LAN terminal is compatible with Crestron Connected™ automation and control software. Monitor and control display devices in your network remotely from a single PC via Ethernet.



Compliance with PJLink™

Compliance with PJLink™ Class 1 enables remote control and monitoring within a wider AV network of PJLink™-compatible components of any brand. Incorporating these displays into an existing system via the local network is seamless and cost effective.



Built-in Speakers

BF1 Series displays feature a pair of built-in 20 W [10 W + 10 W] speakers for clear and powerful audio playback.



Picture-in-Picture Capability

Picture-in-Picture functions offer the versatility to display images from two input sources on the same screen. Documents, videos, and stills can be displayed full-screen with a sub-window showing content from a different source.

Note: Writing and drawing on sub-screen is not available. Miracast and Memory Viewer do not support Picture-in-Picture capability. The following input combinations are not available:

- HDMI, DVI, DIGITAL LINK, Component, and PC
- Whiteboard and Panasonic Application



Picture-in-Picture Mode

Ideal for web conferencing, you can display meeting documents on the main screen and live video footage from a remote location in the sub-window.



Picture-in-Whiteboard Mode

Display media in a window on the whiteboard interface and make notes on the blank space surrounding it.

*1 Drawing on media transmitted via Mirroring Input is not supported. *2 This optional product can be purchased in the U.S., Canada, Japan, Australia, and New Zealand. *3 When using the [Simple], [S-DIRECT], and [M-DIRECT] setting, up to 10 PCs may be connected at the same time in Multi-Live mode.